Poughkeepsie 9.44.55

Rethinking the Arterials & Interchange

Committee Meeting #3

Friday, February 14, 2020

Dutchess County Transportation Council

FITZGERALD & HALLIDAY, INC. Innovative Planning, Better Communities

Creighton Manning

Agenda

- Welcome
- Chapters 1 and 2
  - Overview
  - Discussion
- Open House
- Next Steps
- Schedule

Chapter 1 - Introduction

- Purpose
- Study Area
- Study Approach
- Goals
- Previous Studies
- Conclusions

This planning study is the result of years of momentum and calls for action to identify alternatives for the Arterials and Interchange, to address multi-modal safety and operational needs, enable funding for improvements, and ultimately improve quality of life

Slide 3

Chapter 2 – Existing Conditions

- Demographics
- Zoning
- Transit
- Roadways
- Traffic Characteristics
- Traffic Operations
- Crash Analysis
- Public Input

CHAPTER 2 – EXISTING CONDITIONS

This Chapter summarizes the existing demographics, zoning, transportation characteristics and initial public input that, when considered collectively, establish the need for change at the Interchange and along the Arterials.

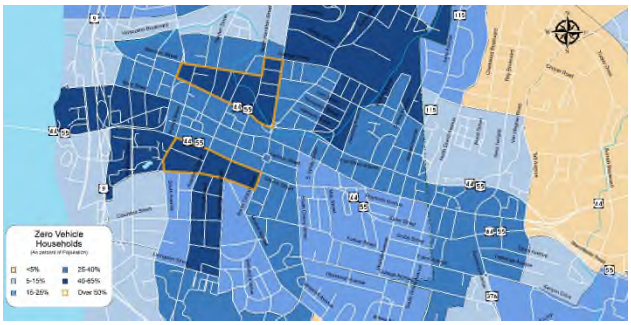
- The demographic analysis shows that a high percentage of households in the area do not have access to a vehicle or rely on other modes of travel to get around, such as walking, bicycling or transit.
- The zoning analysis shows that the Arterials separate residential areas from commercial areas requiring people to cross the Arterials to reach services and destinations.
- The traffic analysis shows that travel speeds are typically above the posted speed limit, that through traffic generally moves well, but there is recurring congestion at the Interchange.
- The crash analysis shows that many of the study area intersections and roadways experience crash rates above the statewide average for similar facilities. This includes the Interchange and sections of the westbound Arterial on Columbus Drive near Main Street, where weaving is a concern.
- The initial public input correlates well with the data showing concerns about traffic operations and safety. Although the majority of travelers at the Interchange and on the Arterials are drivers, initial public input has shown that the Arterials in their current configuration are often uncomfortable for pedestrians and there are documented concerns about safety, operations, and quality of life.

Slide 4

Demographics

- Population
  - Age
  - Minority
- Households in Poverty
- Zero Vehicle Households

A high percent of the households do not have access to a vehicle or rely on other modes to get around



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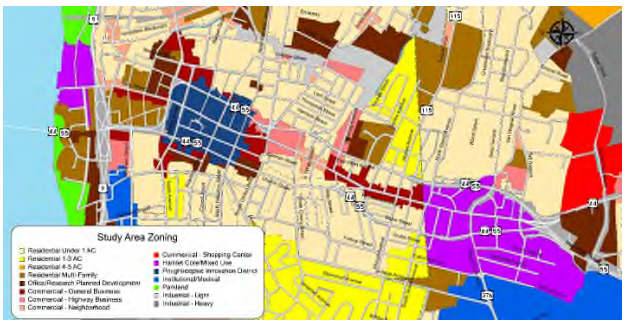
Zoning

The Arterials separate residential areas from commercial areas



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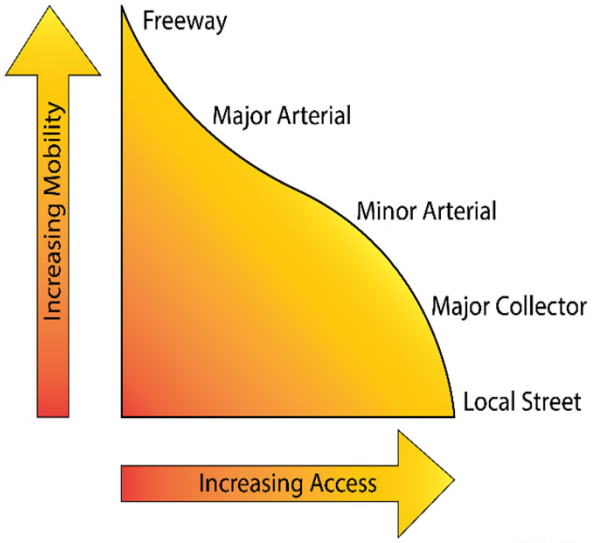
Roadways

Functional class

Principal Arterial (Expressway)

vs

Principal Arterial (other)



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Interchange

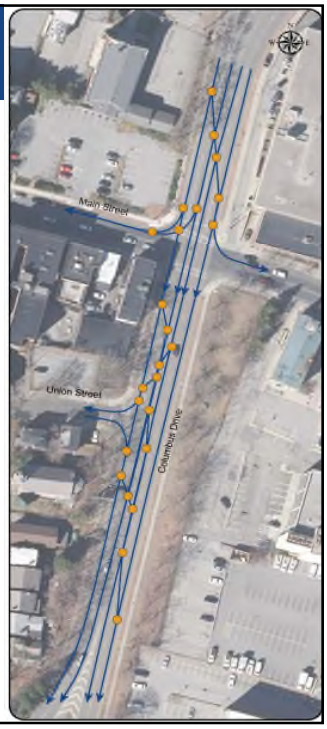
Characteristics

- Left side weaves
- Closely spaced ramps
- Yield and Stop control
- Acceleration and deceleration distances
- Pedestrian facilities

The Arterials

Characteristics

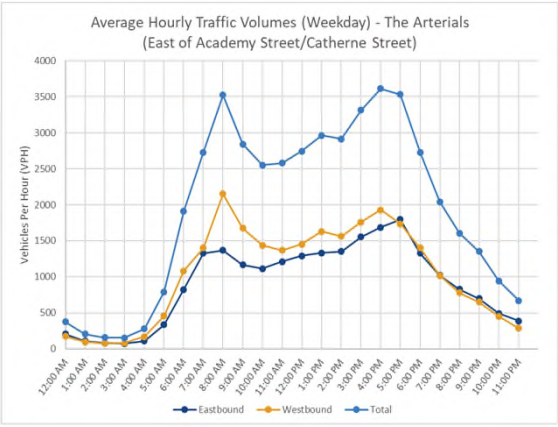
- Cross section
  - 3 lanes one-way
  - widths
- Conflict Points
- Intersections
  - Coordinated signals
  - Crosswalks and pedestrian signals



Traffic Characteristics

Volumes

- Daily volumes
  - 31,000 to 40,000 vehicles per day
- Hourly variations
- Turning Movements
- Speeds
- Bike / Ped volumes
  - Heavier west of High School area



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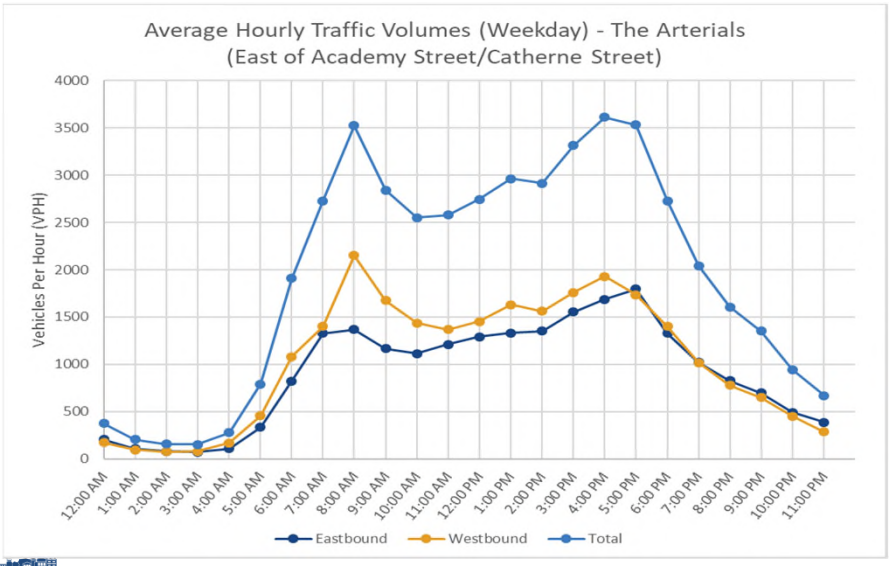
Traffic Characteristics



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Interchange

Levels of Service

Operations analysis shows that the weaving areas on the southbound side of the Interchange operate poorly (Level of Service F) at peak times

Traffic Operations

Levels of Service

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Crash Analysis

Type	Interchange	Intersection	Segment	Total Crashes
Vehicle	407	628	290	**1,325**
Pedestrian	0	24	6	**30**
Bicycle	0	13	5	**18**
Total	**407**	**665**	**301**	**1,373**

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Crash Analysis

Summary

- 2 fatal
  - Southbound US Route 9 near Laurel Street, apparently caused by medical condition
  - Pedestrian not crossing at crosswalk near Clinton Street, sun glare, driver speeding

Crash analysis shows that crash rates on the Arterials and at the Interchange are typically above the statewide average for similar facilities

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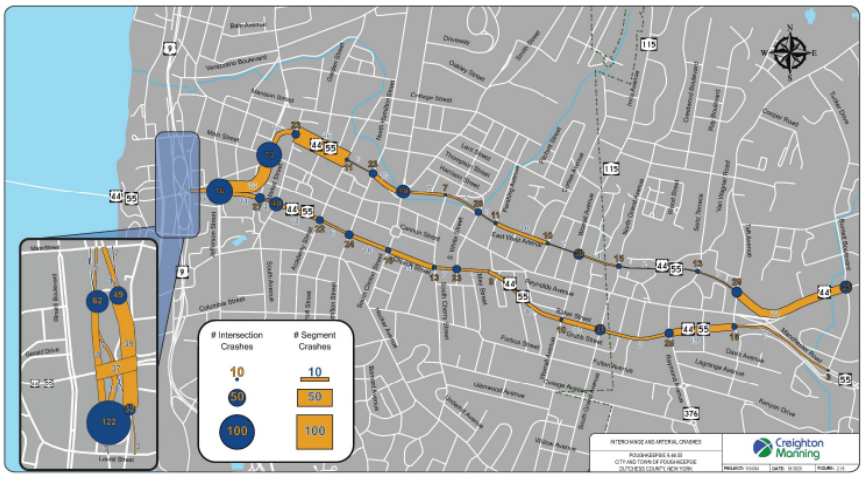
Crashes



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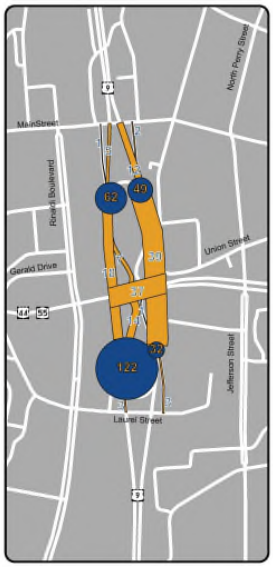
Crash Analysis

Interchange

- 407 Crashes at the Interchange
- Crash Rate exceeds statewide average rate
- Most frequent: Rear-end and overtaking
- Contributing Factors:
  - Following too close
  - Drivers reacting to uninvolved vehicle
- Southbound weave area near the southbound on ramp 122 rear-end and sideswipe crashes.
- Northbound weave area near northbound on ramp 49 rear-end and sideswipe crashes



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Crash Analysis

Intersections

- 665 Crashes at intersections
- 16 of 28 intersections exceed the statewide average rate
- Most frequent/Contributing factors:
  - Rear-end /driver inattention & following too close
  - Right angle / failure to yield & driver inattention
  - Overtaking / unsafe lane changes & improper turning
- Top three locations
  - Westbound Arterial / Main Street
  - Route 44/55/Jefferson Street
  - Eastbound Arterial / Market Street

Crash Analysis

Segments

- 301 Crashes on Arterial Segments
- Overall, the Eastbound and Westbound Arterial segments exceed the statewide average.
- Most frequent: Rear-end and overtaking
- Contributing Factors: Driver inattention and following too close
- 6 of 7 sub-segments exceed the statewide average
  - Westbound Arterial – Raymond to Innis Avenue less than statewide average

Crash Analysis

Segments

Crash Analysis

Pedestrians and Bicycles

- 48 crashes involving pedestrians
- 30 pedestrian crashes
  - › Driver inattention and failure to yield right of way
  - › Pedestrian not using crosswalk, disregarding the signal, or other pedestrian error
- 18 bicycle crashes
  - › Vehicle not yielding
  - › Bicycle not stopping or yielding

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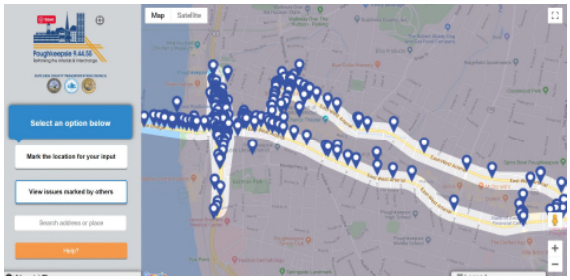
Public Input on Existing Conditions

Aligns with technical analysis

- Concern about Interchange
- Concern about weaving
- Make it easier to walk and bike
- Improve safety



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Rethinking the Arterials & Interchange

Open House

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Open House

- Tuesday, March 3rd
- 4:30 pm to 7:00 pm
- 40 Cannon Street

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Welcome

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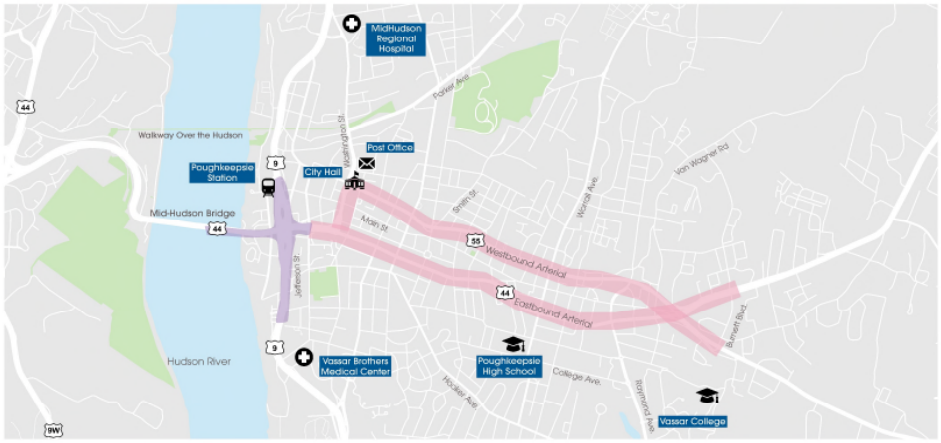
Where did you come from to get to this meeting? Place a dot on the map near where you live or work.



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Welcome

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Rethinking the Arterials & Interchange

Project Focus

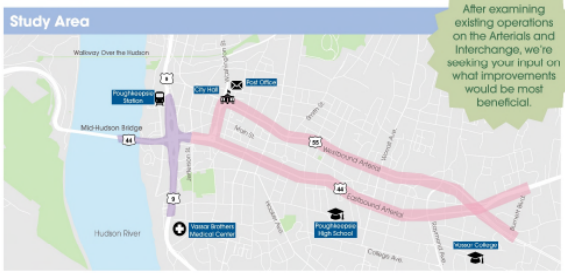
Rethinking the design of the Route 44/55 Arterials in Poughkeepsie and the Route 9 Interchange at the Mid-Hudson Bridge could dramatically improve how people travel to, within, and through Poughkeepsie.

We are undertaking this project to explore how to make the Arterials and Interchange safer, more accessible, and better integrated with the fabric of Poughkeepsie.

Project Goals

- Improve safety along the arterials and at the interchange
- Improve traffic flow through the interchange and address congestion
- Make it easier to walk and bike between neighborhoods and downtown
- Recommend design concepts that improve the form and function of the arterials and interchange
- Anticipate future travel patterns and needs
- $$$ Identify costs

Study Area



After examining existing operations on the Arterials and Interchange, we're seeking your input on what improvements would be most beneficial.

Data Gathering & Analysis	Interchange Concept Development	Arterials Concept Development	Final Report
• Traffic, bicycle, & pedestrian counts • Origin-destination analysis • Existing and future traffic conditions • Stakeholder interviews	• Concept development • Traffic evaluation • Alternative selection	• Concept development • Traffic evaluation • Alternative selection	• Concept plans • Implementation strategy including identification of funding sources

Public Engagement

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Safety

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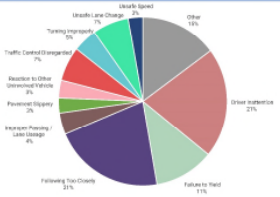
Summary of Crashes 2016-2018

Detail on Interchange Crashes on "Interchange Operations" board

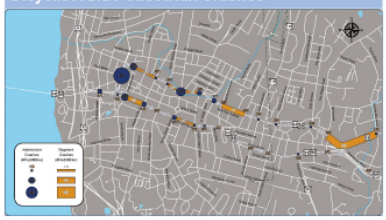
Crash Type and Location

Type	Interchange	Intersection	Segment	TOTAL
Vehicle	407	628	290	1325
Pedestrian	0	24	6	30
Bicycle	0	13	5	18
TOTAL	407	665	301	1371

Predominant Contributing Factors



Bicyclist And Pedestrian Crashes



Interchange Operations

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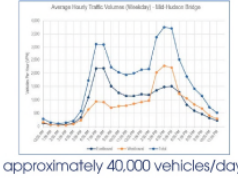
This interchange was constructed in the mid-1960s. Increased traffic on Route 9 and the Mid-Hudson Bridge puts pressure on the complex system of closely spaced ramps and intersections.

Route 9 Traffic

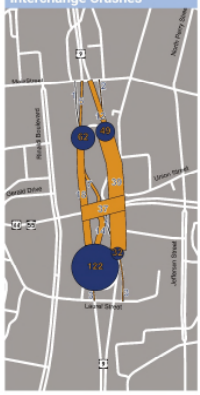
approximately 31,000 vehicles/day

Mid-Hudson Bridge Traffic



approximately 40,000 vehicles/day

Interchange Crashes



Interchange Operations

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FILL IN THE BLANK

place your dot on the answer that applies

I _____ avoid the 9/44/55 Interchange due to congestion or safety concerns

NEVER	RARELY	SOMETIMES	OFTEN

Interchange Operations

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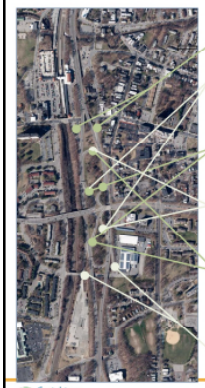
When the team develops concepts, we can keep all movements, or remove some less critical ones to make space for safer operations within the limited right-of-way.

Which movements are the most important to you?

Place up to 2 dots in the rows for movements you would find most valuable in a redesigned interchange.



Main Street to/from Route 9 points south
Mid-Hudson Bridge to/from Route 9 Points North
City (44/55) to/from Route 9 Points North
City (44/55) to/from Route 9 Points South
Mid-Hudson Bridge to/ from Route 9 Points South
Laurel Street to/from Route 9 Points South

Arterials Operations

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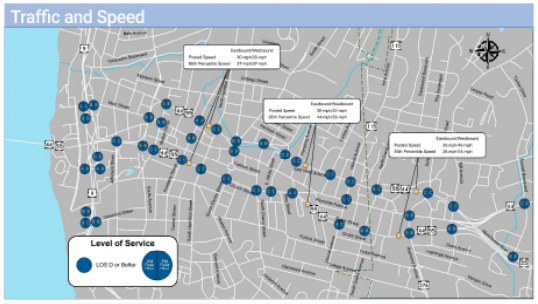
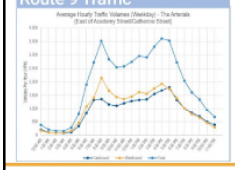
Traffic and Speed



Conflict Points

Lane changes present conflict points, which contribute to concerns about operations and safety. Each circle on this image represents one conflict point in this stretch of the Arterials approaching Route 9.

Route 9 Traffic



Speed, conflict points, traffic volumes, and Level of Service (LOS) all contribute to the character and operations of the Arterials.

Pedestrian Connectivity

What If?

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Toolbox for the Arterials

What do you think about these or other ideas? Use a post-it note to denote thoughts specific tothe Eastbound or Westbound Arterial

- DO NOTHING
- CONVERT TO TWO-WAY
- REDUCE NUMBER OF LANES
- OTHER IDEAS?
- INTRODUCE LANDSCAPED STRIP OR MEDIAN
- INTRODUCE PARKING LANE OR BICYCLE LANE
- REMOVE OR ADD TURNING MOVEMENTS AND LANES

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Next Steps

Origin-Destination Study

STREETLIGHT DATA

1. How much of the traffic on the Arterials is through traffic?
2. How much traffic on US Route 9 is through traffic?
3. How much of the traffic is destined to downtown and where is it coming from?
4. What are the predominant patterns at the interchange?
5. How much traffic enters the City from the North via Washington Ave vs the Interchange?
6. How much traffic enters the City from the South via Academy vs the Interchange?

Micro-simulation & Concept Development

No-build Analysis

↓

Sketch Planning

↓

Screening

↓

Micro-simulation modeling

↕

Refinement

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Schedule

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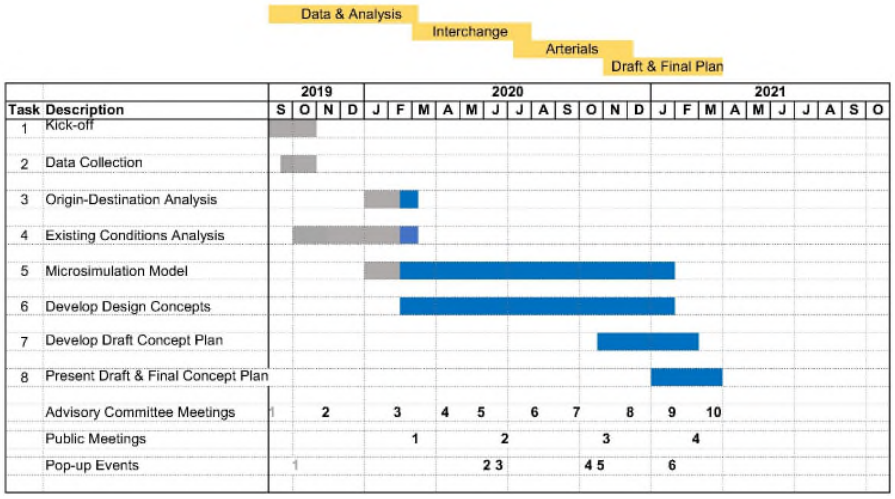
Schedule



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